DOCUMENT RESUME

ED 333 648 EC 300 402

AUTHOR Scotzin, Martha
TITLE A Program Design To Motivate Individuals with SCI for Self-Care.
SPONS AGENCY National Inst. on Disability and Rehabilitation Research (ED/OSERS), Washington, DC.
PUB DATE 12 Aug 90
NOTE 17p.; Paper presented at the Annual Meeting of the American Psychological Association (98th, Boston, MA, August 10-14, 1990). Supported in part by the Paralyzed Veterans of America Education and Training Foundation.
PUB TYPE Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Health Promotion; *Hygiene; Injuries; Motivation; *Neurological Impairments; Patients; Rehabilitation; *Self Care Skills

ABSTRACT

The report compares a skin care education program with a standard rehabilitation program to determine whether the program improved the self care motivations of spinal cord injury (SCI) paraplegic and quadriplegic inpatients (N=42). Study findings suggest that the skin care educational program was successful in changing patients' thinking about self-care, as evidenced by significant changes in self-care behaviors and improvements in skin care. A multidimensional model of motivation which involves establishing appropriate patterns of thinking in five areas (affective, conceptual, purposive, instrumental, and evaluative) was used as the basis for the six-session program with 22 subjects. Control subjects (N=20) participated in a 10-session series of information about skin care and other topics of SCI management. Although treatment subjects had significantly more pressure sores initially, both groups had excellent skin care outcomes following the programs. Programs were not differentially effective for paraplegics and quadraplegics. Treatment group patients practiced self-care pressure relief behaviors at a higher rate than did control patients. (Includes 21 references.) (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED333648

A Program Design to Motivate Individuals with SCI for Self-Care

Martha Scotzin, Ph.D.

Rusk Institute

New York University Medical Center

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Martha Scotzin
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Running Head: Program Design to Motivate

Poster presented at the annual meeting of the American Psychological Association, Boston, MA, August 12, 1990.

This work was supported in part by the Paralyzed Veterans of America Education and Training Foundation and by the National Institute on Disability and Rehabilitation Research.

EC 300402

BEST COPY AVAILABLE

Abstract

A Program Design to Motivate Individuals
with SCI for Self-Care

Martha Scotzin, PhD

Health care providers concerned with chronic health problems that require active patient involvement are using educational programs to improve patient compliance with regimens. Patient compliance is generally unsatisfactory, even for short-term health care regimens. Programs to teach independent self-care are now addressing the individual's motivations for compliance as an important part of the educational process.

Improving motivations to care for skin and avoid skin breakdowns is particularly important for those who have spinal cord injuries or spinal impairments. In the present study, a skin care education program was tested against a standard rehabilitation education format to determine whether patients' motivations can be influenced for improved performance of skin care behaviors.

Subjects for the study were paraplegic and quadriplegic inpatients at two Eastern rehabilitation hospitals. All subjects underwent skin inspections prior to skin care education, and four weeks after rehabilitation discharge. Performance of pressure relief behaviors was observed during sedentary rehabilitation classes early in rehabilitation and before discharge. Treatment group subjects received a comprehensive skin care education

program; control group subjects received one session of skin care as part of a rehabilitation education series.

Paraplegics in the treatment group initially had significantly more pressure sores, which were also more severe, than sores of control subjects. There were no initial differences between the groups in performance rates of pressure relief. After education, treatment subjects performed significantly more pressure relief behaviors than controls ($p < .001$). Patients at both hospitals had excellent skin care outcomes at follow-up. There were no significant differences between the groups in either the number or severity of pressure sores on follow-up.

The evidence from the present study suggests that the specialized skin care educational program was successful in changing patients' thinking about self-care, as evidenced by significant changes in self-care behaviors and improvements in skin care integrity. Individuals whose motivations for health care are considered and developed in the context of health care educational programs can drastically increase performance of health related behaviors and have excellent health outcomes. A longer follow-up period could determine whether the positive outcomes of treatment and control subjects are maintained.

Introduction

Health care providers concerned with chronic health problems that require active patient involvement are using educational programs to improve patient compliance with regimens (Meichenbaum & Turk, 1987; Taylor, 1990). Patient compliance is generally unsatisfactory, even for short-term health care regimens (Ley, 1986; Masek, 1982). Problems of patient adherence to self-care routines are rarely due to a lack of knowledge about the regimen of new behaviors required of the patient (Dunbar & Agras, 1980). Beyond the need to convey information about health care routines, patients need to know more about how they can integrate new demands of self-care behaviors into their daily lives and existing routines (Mazzuca, 1982). Programs to teach independent self-care are now addressing the individual's motivations for compliance as an important part of the educational process.

Improving motivations to care for skin and avoid skin breakdowns is particularly important for those who have spinal cord injuries or spinal impairments since the personal consequences of pressure sores may be both medical and behavioral (Ducharme, Freed, Oates, & Ramos, 1980; LaMantia et al., 1987; Richards, 1981). Behavior modification approaches are frequently used in rehabilitation to teach patients how to prevent pressure sores (Carr & Wilson, 1983; Malament, Dunn, & Davis, 1975; Rottkamp, 1976) though behavioral programs have usually not resulted in long term behavior change (Crenshaw & Vistnes, 1989). Pressure sores are preventable, however, with regular performance of preventive behaviors by the patient. Though remediation techniques are understood and accepted in the medical community (Agris, 1987; Zejdlik, 1983) and are effective when practiced by the individual, the occurrence of skin breakdowns is still widespread. Thus

pressure sore prevention presents a challenge to health care providers of a potentially chronic condition the patient can prevent but which requires motivation to perform routine preventive behaviors. In the present study, a skin care education program was tested against a standard rehabilitation education format to determine whether patients' motivations can be influenced for improved performance of skin care behaviors.

The Multidimensional Model of Motivation (Ballif, 1977) was used in the design of a program which motivates paralyzed individuals to assume responsibility for skin care (Scotzin Shaver, Ballif, & Sommer, 1988). The Model is comprised of three dimensions: patterns of thinking, processes acting on thought patterns, and sources of thought patterns. The cornerstone of the model is the five patterns of thinking, all of which must be present in the individual for motivated self-care behaviors to occur. The thought patterns are the Affective, in which the individual expects to feel better for having learned or performed the task; the Conceptual, in which the individual believes he or she is competent to perform the task; the Purposive, in which the individual sets goals to guide behavior; the Instrumental, in which the individual is knowledgable of all the steps necessary to reach the goals; and the Evaluative, in which the individual evaluates his or her performance against his or her standards (Ballif, 1974). Each of the five thought patterns is supported by extensive theoretical and empirical work (Ballif, 1974, 1976, 1977; Scotzin Shaver, 1990).

Method

The sample for the present study consisted of $N = 42$ persons age 16 or over with traumatic spinal cord injuries or spinal cord disease (e.g.,

spinal cord tumor) who had neurologic damage to the spinal cord resulting in either paraplegia or quadriplegia sufficient to require the use of a wheelchair as the primary mechanism of mobility. Subjects were drawn from the inpatient rehabilitation populations at Rusk Institute of Rehabilitation Medicine, New York, NY (treatment group) and Magee Rehabilitation Hospital, Philadelphia, PA (control group). The treatment group consisted of $n = 22$ subjects, the control group consisted of $n = 20$ subjects. Sample characteristics are presented in Table 1.

Treatment and control subjects received similar rehabilitation care except for education about skin care. Treatment subjects participated in Don't Just Sit There, a six-session course designed to motivate performance of skin care. Control subjects participated in a 10-session Teaching Series of information about skin care and other topics of SCI management.

A nonequivalent control group design was used to determine differences in pressure relief behaviors and skin care outcomes of the treatment and control groups. Prior to participation in either Don't Just Sit There or the Teaching Series, nurses who were blind to the study conditons completed a skin inspection form for each subject. The locations and grades of pressure sores were coded according to guidelines developed by Enis and Sarmiento (1973). Four weeks after rehabilitation discharge, treatment and control subjects who returned to their respective hospitals for follow-up examinations had their skin checked by a clinic nurse or physician who graded and recorded skin breakdowns as before. In addition, the pressure relief behaviors of each study subject were observed for one hour during regularly scheduled rehabilitation sessions before and after skin care

education. One rater coded the frequency of pressure relief behaviors lasting ten seconds or more while the patient was seated.

The skin inspection data were treated by 2 (treatment or control group) x 2 (paraplegia or quadriplegia) ANOVA's. The dependent variable for the first two ANOVA's was the number of pressure sores detected from visual inspection of the patient before skin care education or after hospital discharge. The dependent variable for two other ANOVA's was the severity of pressure sores, computed by totaling the grades of severity of all pressure sores before and after skin care education.

The pressure relief data were also treated by 2 (group) x 2 (paraplegia or quadriplegia) ANOVA's. The dependent variable was the number of pressure relief behaviors performed per hour.

Results

The data were first analyzed to determine whether there were initial differences between the treatment and control groups in the number and severity of pressure sores before beginning their educational programs. Treatment group patients had fourteen skin sores prior to education, while control patients had eight sores prior to education. An analysis of variance of the total number of pressure sores of treatment and control subjects before education did not reveal a main effect for either the treatment group or level of disability (Table 2). There was a significant interaction between the treatment group and level, indicating that paraplegic and quadriplegic individuals in the two groups differed initially in the number of pressure sores. While treatment and control group

quadriplegics did not differ in number of sores (t = 1.29, df = 10.27, p < .225), differences in the number of sores of paraplegics approached significance (t = 2.00, df = 16.10, p < .063). The treatment group paraplegics had more sores before education than other subjects. Since there was a significant interaction effect and the difference in number of sores of treatment paraplegics approached significance, the groups were considered to be different before education.

The severity scores of treatment and control patients prior to education were analyzed using analysis of variance. Table 3 indicates that there were no main effects for either the group or level of disability. There was an interaction between group and level which was significant. Paraplegics in the treatment group had more severe sores initially than paraplegics in the control group (t = 1.90, df = 22, p < .070) with the differences approaching significance. Differences between the quadriplegic patients in the two groups did not reach significance (t = 1.49, df = 9.46, p < 1.69). Since there was a significant interaction effect and differences in treatment group paraplegics' severity scores approached significance, the treatment and control subjects were considered to be different in severity of pressure sores prior to education.

Skin care outcome data following education show no differences in either the number or severity of pressure sores (F = .06, df = 2, p < .94) between the treatment and control groups, and between paraplegics and quadriplegics, since one quadriplegic in each group had a grade I pressure sore.

Treatment subjects practiced pressure relief behaviors significantly more often after skin care education than did control subjects. Before skin

care education, the treatment patients performed a total of eight pressure relief behaviors during observation, while control subjects performed a total of seven pressure relief behaviors ($t = 0.06$, $df = 39.99$, n.s.). After skin care education, treatment patients performed a total of 101 pressure reliefs while control patients performed eight pressure reliefs. Analysis of variance of pressure relief behaviors after education indicated there was a significant main effect for group but not for level of injury (Table 4). Table 5 presents the percent of treatment and control patients who equalled or exceeded the recommended number of two pressure relief behaviors per hour.

Conclusions

The purpose of the present study was to investigate whether individuals with serious health problems could learn motivation for self-care through an educational format. It used an educational program of motivation for performing skin care behaviors to influence disabled individuals' motivations about skin care. Treatment and control subjects entered the study with pressure sores that differed in number and severity. Paraplegic subjects in the treatment group entered the study with significantly more pressure sores, that were also more serious than sores of other subjects. At the time of the post-discharge follow-up, however, both groups had excellent skin care outcomes: the treatment and control groups each had only one pressure sore, and both sores were of the mildest grade.

Skin care programs at the two hospitals were not differentially effective for paraplegics and quadriplegics. There were no significant differences in skin care outcomes between paraplegic and quadriplegic patients in either the number or severity of pressure sores, in contrast to

previous research suggesting that paraplegics are more likely than quadriplegics to develop pressure sores after hospital discharge.

Treatment group patients practiced self-care pressure relief behaviors at a higher rate than did control patients. The differences in behavioral performance can be attributed to patient motivation for self-care since both groups received similar information about skin care. A long term follow-up assessment of skin care outcomes would determine whether the habits established during inpatient hospitalization had lasting effects on skin health.

The present study suggests it is possible to influence motivation to learn and practice self-care behaviors, through an educational format. The results obtained in the course of this investigation indicate there is a difference in self-care behavior between individuals who have undergone a program designed to influence their motivations for self-care and individuals who have not completed a special program. The results also indicate that health outcomes, in terms of the number and severity of complications, can be excellent for individuals motivated for self-care even when there are initial health problems.

Table 1

Sample Characteristics

Characteristic		Treatment	Control	t
Age	M	39.3	31.4	1.62
	SD	19.0	12.2	
Sex				.54
Male (%)		73	80	
Female		27	20	
Race				1.44
White (%)		68	85	
Black		27	15	
Hispanic		5	0	
Level of Disability				0.35
Paraplegic (%)		55	60	
Quadriplegic		45	40	
Type of Impairment				3.10*
traumatic (%)		50	90	
nontraumatic		50	10	

*$p < .05$

Table 2

Analysis of Variance of Number of Pressure Sores Prior to Skin Care Education by Group and Level of Disability

Source	Sum of Squares	df	Mean Square	F	p
Main Effects	.23	2	.12	.16	.85
Group	.23	1	.23	.33	.56
Level	.00	1	.00	.00	.95
Interaction					
Group x Level	3.68	1	3.68	5.34	.03*
Explained	4.29	3	1.43	2.08	.12
Residual	26.18	38	.69		
Total	30.39	41	.74		

*p < .05

Table 3

Analysis of Variance of Severity Scores Prior To Skin Care Education by Group and Level of Disability

Source	Sum of Squares	df	Mean Square	F	p
Main Effects	1.19	2	.60	.33	.72
Group	.99	1	.99	.54	.47
Level	.25	1	.25	.13	.71
Interaction					
Group x Level	10.38	1	10.38	5.67	.02 *
Explained	11.58	3	3.86	2.11	.12
Residual	69.57	38	1.83		
Total	81.14	41	1.98		

*p < .05

Table 4

Analysis of Variance of Number of Pressure Relief Behaviors After Skin Care Education by Group and Level of Disability

Source	Sum of Squares	df	Mean Square	F	p
Main Effects	175.19	2	87.59	17.59	.000
Group	175.18	1	175.18	35.19	.001*
Level	.77	1	.77	.16	.696
Interaction					
Group x Level	1.99	1	1.99	.40	.53
Explained	186.94	3	62.31	12.52	.00
Residual	189.18	38	4.98		
Total	376.12	41	9.17		

*p < .001

Table 5

Percent of Treatment and Control Patients Who Met or Exceeded Recommended Behavior Performance Levels

	Treatment	Control
Before	13.6%	10%
After	95.3	10

References

Agris, J. (1987). Skin care. In L.H. Bernstein, A.J. Grieco, & M.K. Dete (Eds.), Primary care in the home, (pp. 213-224). Philadelphia: J.B. Lippincott.

Ballif, B.L. (1974). Components of motivation for learning and procedures for increasing them. New York State Personnel & Guidance Journal, 9(1), 3-17.

Ballif, B.L. (1976, October). A multi-dimensional model of human motivation. Invited address opening the annual convention of the Texas Personnel and Guidance Association, Fort Worth.

Ballif, B.L. (1977, April). A multidimensional model of motivation for learning that provides diagnostic profiles and instructional presciptions. Paper presented at the meeting of the American Educational Research Association, New York.

Carr, S., & Wilson, B. (1983). Promotion of pressure-relief exercising in a spinal injury patient: A multiple baseline across settings design. Behavioural Psychotherapy, 11, 329-336.

Crenshaw, R.P., & Vistnes, L.M. (1989). A decade of pressure sore research: 1977-1988. Journal of Rehabilitation Research and Development, 26, 63-74.

Ducharme, S.H., Freed, M.M., Oates, C., & Ramos, M.U. (1980). The role of self-destruction in spinal cord injury mortality. Model Systems' SCI Digest, 2, 29-38.

Dunbar, J.M., & Agras, W.S. (1980). Compliance with medical instructions. In J.M. Ferguson & C.B. Taylor (Eds.), Comprehensive handbook of behavioral medicine (Vol. 3). New York: Spectrum.

Enis, J.E., & Sarmiento, A. (1973). The pathophysiology and management of pressure sores. Orthopaedic Review, 2, 25-34.

LaMantia, J.G., Hirshwald, J.F., Goodman, C.L., Wooden, V.M., Delisser, O., & Staas, W.E. (1987). A program design to reduce chronic readmissions for pressure sores. Rehabilitation Nursing, 12, 22-25.

Ley, P. (1986). Cognitive variables and noncompliance. Journal of Compliance in Health Care, 1, 171-188.

Malament, I., Dunn, M., & Davis, R. (1975). Pressure sores: An operant conditioning approach to prevention. Archives of Physical Medicine and Rehabilitation, 56, 161-165.

Masek, B.J. (1982). Compliance and medicine. In D.M. Doleys, R.L. Meredith, & A.R. Ciminero (Eds.), Behavioral medicine: Assessment and treatment strategies (pp. 527-545). New York: Plenum.

Mazzuca, S.A. (1982). Does patient education in chronic disease have therapeutic value? Journal of Chronic Disease, 35, 521-529.

Meichenbaum, D., & Turk, D.C. (1987). Facilitating treatment adherence. New York: Plenum Press.

Richards, J.S. (1981). Pressure ulcers in spinal cord injury: Psychosocial correlates. Model Systems SCI Digest, 3, 11-18.

Rottkamp, B.C. (1976). A behavior modification approach to nursing therapeutics in body positioning of spinal cord injured patients. Nursing Research, 25, 181-186.

Scotzin Shaver, M. (1990). The effects of motivation-based instruction on disabled persons' self-care behavior. Unpublished doctoral dissertation, Fordham University, New York.

Scotzin Shaver, M., Ballif, B., & Sommer, J. (1988). A program to motivate correct skin care in persons with spinal cord injuries. Proposal to the Paralyzed Veterans of America Education and Training Foundation, Washington, DC.

Taylor, S.E. (1990). Health psychology: The science and the field. American Psychologist, 45, 40-50.

Zejdlik, C.M. (1983). Management of spinal cord injury. Belmont, CA: Wadsworth.